

## Amendments of the Claims

The following listing of claims will replace all prior versions, and listings, of claims in the above-identified patent application:

### Listing of Claims

1. (previously presented) A method for analyzing price data, representing price in a financial system that varies over time, said method comprising:  
beginning at a first initial moment, acquiring  
5 said price data during an initial first duration and determining an initial first range of said price data between a minimum value during said initial first duration and a maximum value during said initial first duration;  
comparing said first range of said price data  
10 during said initial first duration to a range of said price data expected, based on Brownian motion, during said initial first duration;  
when said first range of said price data during said initial first duration exceeds said range of said price  
15 data expected, based on Brownian motion, during said initial first duration, concluding that said system is varying in a trend; and  
when said first range of said price data during said initial first duration is less than said range of said  
20 price data expected, based on Brownian motion, during said initial first duration, concluding that said system is congesting.
2. (previously presented) The method of claim 1 wherein said comparing comprises comparing said initial first range of said price data to a generated Brownian motion standard.

3. (previously presented)      The method of claim 2 further comprising, after said acquiring and before said comparing, applying bootstrapping techniques to said price data.

4. (previously presented)      The method of claim 1 further comprising:

beginning at said first initial moment,  
acquiring said price data during an initial second duration of  
5 which said initial first duration is a multiple and  
determining an initial second range of said price data between  
a minimum value during said initial second duration and a  
maximum value during said initial second duration; wherein  
said comparing comprises:  
10 computing an actual relationship of said  
initial first range to said initial second range and comparing  
said actual relationship of said initial first range to said  
initial second range to an expected relationship of said  
initial first range to said initial second range.

5. (currently amended)      The method of claim 4 wherein:

said computing an actual relationship comprises  
forming a ratio of said initial first range to said initial  
5 second range; and  
said comparing ~~and determining~~ comprise said  
actual relationship to said expected relationship comprises:  
when said ratio exceeds a square root of said  
multiple, concluding that said system is varying in a trend,  
10 and  
when said ratio is less than said square root,  
concluding that said system is congesting.

6. (previously presented)      The method of claim 4 further comprising:

beginning at a subsequent initial moment,  
acquiring said price data during a subsequent first duration  
5 and determining a subsequent first range of said price data  
between a minimum value during said subsequent first duration  
and a maximum value during said subsequent first duration;  
beginning at said subsequent initial moment,  
acquiring said price data during a subsequent second duration  
10 of which said subsequent first duration is said multiple and  
determining a subsequent second range of said price data  
between a minimum value during said subsequent second duration  
and a maximum value during said subsequent second duration;  
computing an actual relationship of said  
15 subsequent first range to said subsequent second range; and  
comparing said actual relationship of said  
subsequent first range to said subsequent second range to an  
expected relationship of said subsequent first range to said  
subsequent second range, and determining from said comparison  
20 of said actual relationship of said subsequent first range to  
said subsequent second range to said expected relationship of  
said subsequent first range to said subsequent second range  
how said system is varying.

7. (currently amended) The method of claim 6  
further comprising repeating, at respective multiple  
additional subsequent initial moments:  
acquiring said price data during each  
5 respective subsequent first duration;  
acquiring said price data during each  
respective subsequent second duration;  
computing a respective actual relationship of  
each respective subsequent first range to each respective  
10 subsequent second range;  
comparing each respective actual relationship  
of each respective subsequent first range to each respective  
subsequent second range to a respective expected relationship

of each respective subsequent first range to each respective  
15 subsequent second range to obtain a respective comparison; and  
determining from each respective comparison how  
said system is varying.

8. (currently amended) The method of claim 7  
wherein, for each of said initial moments:

said computing a respective actual relationship  
of each respective subsequent first range to each respective  
5 subsequent second range comprises forming a respective ratio  
of each respective initial first range to each respective  
initial second range; and

said comparing said respective actual  
relationship to said respective expected relationship, and  
10 said determining, comprises comprise:

when said respective ratio exceeds a square  
root of said multiple, concluding that said system is varying  
in a trend, and

when said respective ratio is less than said  
15 square root, concluding that said system is congesting.

9. (previously presented) The method of claim 8  
further comprising comparing respective ones of said ratio for  
two consecutive ones of said initial moments and:

when each of said respective ones of said ratio  
5 exceeds a square root of said multiple and a subsequent  
respective one of said ratio exceeds a prior respective one of  
said ratio, concluding that said system is varying in a trend  
and said trend is accelerating;

when each of said respective ones of said ratio  
10 exceeds said square root and a prior respective one of said  
ratio exceeds a subsequent respective one of said ratio,  
concluding that said system is varying in a trend and said  
trend is decelerating;

when each of said respective ones of said ratio  
15 is less than said square root and a prior respective one of  
said ratio exceeds a subsequent respective one of said ratio,  
concluding that said system is congesting and said congestion  
is accelerating;

when each of said respective ones of said ratio  
20 is less than said square root and a subsequent respective one  
of said ratio exceeds a prior respective one of said ratio,  
concluding that said system is congesting and said congestion  
is decelerating;

when a prior respective one of said ratio is  
25 less than said square root and a subsequent respective one of  
said ratio exceeds said square root, concluding that said  
system has moved from congestion into a trend; and

when a prior respective one of said ratio  
exceeds said square root and a subsequent respective one of  
30 said ratio is less than said square root, concluding that said  
system has moved from a trend into congestion.

10. (previously presented) The method of claim 9  
further comprising:

when said system is in a current condition of  
congestion or trend, comparing respective ones of said ratio  
5 for three consecutive respective ones of said initial moments  
separated by equal time intervals; and

deriving, from said comparison of said  
respective ones of said ratio for three consecutive respective  
ones of said initial moments, a prediction of when said system  
10 will move from said current condition of congestion or trend  
to another condition of congestion or trend.

11. (previously presented) The method of claim 10  
further comprising displaying said prediction in the form of a  
closed curve with price data points from said three

consecutive respective ones of said initial moments identified  
5 on said closed curve.

12. (previously presented) The method of claim 1 further comprising displaying said initial first range of said price data and said expected range of said price data.

13. (original) The method of claim 12 wherein said displaying comprises displaying a line graph.

14. (original) The method of claim 12 wherein said displaying comprises displaying an orbital plot.

15-16. (cancelled)

17. (previously presented) The method of claim 1 further comprising:

beginning at a subsequent initial moment,  
acquiring said price data during a subsequent first duration  
5 and determining a subsequent first range of said price data  
between a minimum value during said subsequent first duration  
and a maximum value during said subsequent first duration;  
comparing said subsequent first range of said  
price data during said subsequent first duration to an  
10 expected range of said price data during said subsequent first  
duration.

18. (previously presented) The method of claim 17 further comprising:

beginning at said subsequent initial moment,  
acquiring said price data during a subsequent second duration  
5 of which said subsequent first duration is a multiple and  
determining a subsequent second range of said price data  
between a minimum value during said subsequent second duration  
and a maximum value during said subsequent second duration;  
wherein said comparing said subsequent first range of said

10 price data during said subsequent first duration to an expected range of said price data during said subsequent first duration comprises:

                  computing an actual relationship of said subsequent first range to said subsequent second range; and  
15                   comparing said actual relationship of said subsequent first range to said subsequent second range to an expected relationship of said subsequent first range to said subsequent second range, and determining from said comparison of said actual relationship of said subsequent first range to  
20 said subsequent second range to said expected relationship of said subsequent first range to said subsequent second range how said system is varying.

19. (currently amended) The method of claim 18 further comprising repeating, at multiple additional subsequent initial moments:

                  acquiring said price data during each  
5   respective subsequent first duration;  
                  acquiring said price data during each respective subsequent second duration;  
                  computing a respective actual relationship of each respective subsequent first range to each respective  
10 subsequent second range;  
                  comparing each respective actual relationship of each respective subsequent first range to each respective subsequent second range to a respective expected relationship of each respective subsequent first range to each respective  
15 subsequent second range to obtain a respective comparison; and  
                  determining from each respective comparison how said system is varying.

20. (currently amended) The method of claim 17 further comprising repeating, beginning at multiple additional subsequent initial moments:

acquiring said price data during each  
5 respective subsequent first duration;  
computing a respective actual range of said  
price data between a minimum value during each respective  
subsequent first duration and a maximum value during each  
respective subsequent first duration;  
10 comparing each respective actual range during  
each respective subsequent first duration to a respective  
expected range during each respective subsequent first  
duration to obtain a respective comparison; and  
determining from each respective comparison how  
15 said system is varying.

21. (previously presented) The method of claim 20  
further comprising repeating, at multiple additional sets of  
multiple initial moments:  
said acquiring said price data during each  
5 respective subsequent first duration;  
said computing a respective actual range of  
said price data between a minimum value during each respective  
subsequent first duration and a maximum value during each  
respective subsequent first duration; and  
10 said comparing each respective actual range  
during each respective subsequent first duration to a  
respective expected range during each respective subsequent  
first duration; wherein:  
said duration differs for each said set.

22. (previously presented) Apparatus for  
analyzing price data, representing price in a financial system  
that varies over time, said apparatus comprising:  
means for, beginning at a first initial moment,  
5 acquiring said price data during an initial first duration and  
determining an initial first range of said price data between



a minimum value during said initial first duration and a maximum value during said initial first duration;

means for comparing said first range of said  
10 price data during said initial first duration to a range of said price data expected, based on Brownian motion, during said initial first duration; and

means for concluding:

when said first range of said price data during  
15 said initial first duration exceeds said range of said price data expected, based on Brownian motion, during said initial first duration, that said system is varying in a trend, and  
when said first range of said price data during said initial first duration is less than said range of said  
20 price data expected, based on Brownian motion, during said initial first duration, that said system is congesting.

23. (previously presented) The apparatus of claim 22 further comprising a Brownian motion standard generator; wherein:

said comparing means compares said initial  
5 first range of said price data to a Brownian motion standard generated by said Brownian motion standard generator.

24. (cancelled)

25. (previously presented) The apparatus of claim 22 further comprising:

means for, beginning at said first initial moment, acquiring said price data during an initial second  
5 duration of which said initial first duration is a multiple and determining an initial second range of said price data between a minimum value during said initial second duration and a maximum value during said initial second duration; wherein:

10                   said comparing means computes an actual  
relationship of said initial first range to said initial  
second range and compares said actual relationship of said  
initial first range to said initial second range to an  
expected relationship of said initial first range to said  
15 initial second range.

26. (previously presented)       The apparatus of  
claim 25 wherein:

                  said means for comparing computes said actual  
relationship by forming a ratio of said initial first range to  
5 said initial second range; and

                  said concluding means:

                  concludes that said system is varying in a  
trend when said ratio exceeds a square root of said multiple,  
and

10                   concludes that said system is congesting when  
said ratio is less than said square root.

27. (previously presented)       The apparatus of  
claim 25 further comprising:

                  means for, beginning at a subsequent initial  
moment, acquiring said price data during a subsequent first  
5 duration and determining a subsequent first range of said  
price data between a minimum value during said subsequent  
first duration and a maximum value during said subsequent  
first duration;

                  means for, beginning at said subsequent initial  
10 moment, acquiring said price data during a subsequent second  
duration of which said subsequent first duration is said  
multiple and determining a subsequent second range of said  
price data between a minimum value during said subsequent  
second duration and a maximum value during said subsequent  
15 second duration;

means for computing an actual relationship of said subsequent first range to said subsequent second range; and

20 means for comparing said actual relationship of said subsequent first range to said subsequent second range to an expected relationship of said subsequent first range to said subsequent second range, and for determining from said comparison of said actual relationship of said subsequent first range to said subsequent second range to said expected  
25 relationship of said subsequent first range to said subsequent second range how said system is varying.

28. (previously presented) The apparatus of claim 22 further comprising means for displaying said initial first range of said price data and said expected range of said price data.

29. (original) The apparatus of claim 28 wherein said displaying means displays a line graph.

30. (original) The apparatus of claim 28 wherein said displaying means displays a orbital plot.

31-32. (cancelled)

33. (previously presented) The apparatus of claim 22 further comprising:

means for, beginning at a subsequent initial moment, acquiring said price data during a subsequent first  
5 duration and determining a subsequent first range of said price data between a minimum value during said subsequent first duration and a maximum value during said subsequent first duration; and

10 means for comparing said subsequent first range of said price data during said subsequent first duration to an

expected range of said price data during said subsequent first duration.

34. (previously presented) The apparatus of claim 33 further comprising:

means for, beginning at said subsequent initial moment, acquiring said price data during a subsequent second  
5 duration of which said subsequent first duration is a multiple and determining a subsequent second range of said price data between a minimum value during said subsequent second duration and a maximum value during said subsequent second duration;  
wherein said comparing means computes an actual relationship  
10 of said subsequent first range to said subsequent second range and compares said actual relationship of said subsequent first range to said subsequent second range to an expected relationship of said subsequent first range to said subsequent second range, and determines from said comparison of said  
15 actual relationship of said subsequent first range to said subsequent second range to said expected relationship of said subsequent first range to said subsequent second range how said system is varying.

35. (currently amended) Apparatus for analyzing price data, representing price in a financial system that varies over time, said apparatus comprising:

a data feed that, beginning at a first initial  
5 moment, acquires said price data during an initial first duration; and  
a processor ~~that determines~~ programmed with instructions to determine an initial first range of said price data between a minimum value during said initial first  
10 duration and a maximum value during said initial first duration; wherein said instructions comprise:

~~said processor compares~~ instructions to compare said first range of said price data during said initial first

duration to a range of said price data expected, based on  
15 Brownian motion, during said initial first duration; and  
~~said processor concludes~~ instructions to  
conclude:

that said system is varying in a trend when  
said first range of said price data during said initial first  
20 duration exceeds said range of said price data expected, based  
on Brownian motion, during said initial first duration, and  
that said system is congesting when said first  
range of said price data during said initial first duration is  
less than said range of said price data expected, based on  
25 Brownian motion, during said initial first duration.

36. (currently amended) The apparatus of claim 35  
further comprising a Brownian motion standard generator;  
wherein:

said ~~processor compares~~ instructions to compare  
5 said first range of said price data during said initial first  
duration to a range of said price data expected based on  
Brownian motion comprise instructions to compare said initial  
first range of said price data to a Brownian motion standard  
generated by said Brownian motion standard generator.

37. (previously presented) The apparatus of  
claim 36 wherein said processor applies bootstrapping  
techniques to said acquired price data.

38. (currently amended) The apparatus of claim 35  
wherein:

said data feed, beginning at said first initial  
moment, acquires said price data during an initial second  
5 duration of which said initial first duration is a multiple;  
said ~~processor determines~~ instructions comprise  
instructions to determine an initial second range of said  
price data between a minimum value during said initial second

duration and a maximum value during said initial second  
10 duration; and  
said ~~processor compares~~ instructions comprise  
instructions to compare an actual relationship of said initial  
first range to said initial second range to an expected  
relationship of said initial first range to said initial  
15 second range, and ~~determines~~ to determine from said comparison  
how said system is varying.

39. (currently amended) The apparatus of claim 38  
wherein said ~~processor forms~~ instructions comprise:  
instructions to form a ratio of said initial  
first range to said initial second range; [[and:]]  
5 ~~concludes~~ instructions to conclude that said  
system is varying in a trend when said ratio exceeds a square  
root of said multiple; and  
~~concludes~~ instructions to conclude that said  
system is congesting when said ratio is less than said square  
10 root.

40. (currently amended) The apparatus of claim 38  
wherein:  
said data feed, beginning at a subsequent  
initial moment, acquires said price data during a subsequent  
5 first duration;  
said ~~processor determines~~ instructions comprise  
instructions to determine a subsequent first range of said  
price data between a minimum value during said subsequent  
first duration and a maximum value during said subsequent  
10 first duration;  
said data feed, beginning at said subsequent  
initial moment, acquires said price data during a subsequent  
second duration of which said subsequent first duration is  
said multiple;

15                    said ~~processor determines~~ instructions comprise  
    instructions to determine a subsequent second range of said  
    price data between a minimum value during said subsequent  
    second duration and a maximum value during said subsequent  
    second duration; and

20                    said ~~processor compares~~ instructions comprise  
    instructions to compare an actual relationship of said  
    subsequent first range to said subsequent second range to an  
    expected relationship of said subsequent first range to said  
    subsequent second range, and determines from said comparison

25 how said system is varying.

41. (previously presented)     The apparatus of  
claim 35 further comprising a display that displays said  
initial first range of said price data and said expected range  
of said price data.

42. (original) The apparatus of claim 41 wherein  
said display displays a line graph.

43. (original) The apparatus of claim 41 wherein  
said display displays a orbital plot.

44-45. (cancelled)

46. (currently amended)     The apparatus of claim 35  
wherein:

                  said data feed, beginning at a subsequent  
                  initial moment, acquires said price data during a subsequent  
5    first duration;

                  said ~~processor determines~~ instructions comprise  
                  instructions to determine a subsequent first range of said  
                  price data between a minimum value during said subsequent  
                  first duration and a maximum value during said subsequent  
10   first duration; and

15        said ~~processor compares~~ instructions comprise  
      instructions to compare said subsequent first range of said  
      price data during said subsequent first duration to an  
      expected range of said price data during said subsequent first  
15        duration.

47. (currently amended)    The apparatus of claim 46  
      wherein:

      said data feed, beginning at said subsequent  
      initial moment, acquires said price data during a subsequent  
5        second duration of which said subsequent first duration is a  
      multiple;

      said ~~processor determines~~ instructions comprise  
      instructions to determine a subsequent second range of said  
      price data between a minimum value during said subsequent  
10        second duration and a maximum value during said subsequent  
      second duration;

      said ~~processor compares~~ instructions comprise  
      instructions to compare an actual relationship of said  
      subsequent first range to said subsequent second range to an  
15        expected relationship of said subsequent first range to said  
      subsequent second range, and determines from said comparison  
      how said system is varying.

48. (previously presented)    A method for analyzing  
      price data, representing price in a financial system that  
      varies over time, said method comprising:

      beginning at an initial moment, acquiring said  
5        price data during a duration of a first length of time and  
      determining a first range of said price data between a minimum  
      value during said duration of said first length of time and a  
      maximum value during said duration of said first length of  
      time;



10                   determining a second range, expected based on  
Brownian motion, of said price data during a duration of a  
second length of time beginning at said initial moment; and  
                  monitoring an instantaneous value of said price  
data during said duration of said second length of time and  
15   determining that said system is varying in a trend when said  
instantaneous value is outside said expected second range.

49. (previously presented)     The method of claim 48  
wherein:

                  said duration of said second length of time is  
a multiple of said duration of said first length of time; and  
5                   said expected second range is a product of said  
first range and a square root of said multiple.

50-51. (cancelled)

52. (previously presented)     Apparatus for  
analyzing price data, representing price in a financial system  
that varies over time, said apparatus comprising:

                  means for, beginning at an initial moment,  
5   acquiring said price data during a duration of a first length  
of time and determining a first range of said data between a  
minimum value during said duration of said first length of  
time and a maximum value during said duration of said first  
length of time;  
10                   means for determining a second range, as  
expected based on Brownian motion, of said price data during a  
duration of a second length of time beginning at said initial  
moment; and  
                  means for monitoring an instantaneous value of  
15   said price data during said duration of said second length of  
time and determining that said system is varying in a trend  
when said instantaneous value is outside said expected second  
range.

53. (previously presented) The apparatus of claim 52 wherein:

said duration of said second length of time is a multiple of said duration of said first length of time; and  
5 said expected second range is a product of said first range and a square root of said multiple.

54-55. (cancelled)

56. (currently amended) Apparatus for analyzing price data, representing price in a financial system that varies over time, said apparatus comprising:

a data feed for, beginning at an initial  
5 moment, acquiring said price data during a duration of a first length of time and monitoring an instantaneous value of said price data during a duration of a second length of time beginning at said initial moment; and

a processor [[for]] programmed with  
10 instructions to:

~~determining~~ determine a first range of said price data between a minimum value during said duration of said first length of time and a maximum value during said duration of said first length of time,  
15 ~~determining~~ determine a second range, expected based on Brownian motion, of said price data during said duration of said second length of time beginning at said initial moment, and

~~determining~~ determine that said system is  
20 varying in a trend when said instantaneous value is outside said expected second range.

57. (previously presented) The apparatus of claim 56 wherein:

said duration of said second length of time is a multiple of said duration of said first length of time; and

5                   said expected second range is a product of said  
first range and a square root of said multiple.

58-59. (cancelled)

60. (withdrawn)       A method for offering to  
subscribers analysis of data that vary over time, said method  
comprising:

beginning at each of a plurality of initial  
5 moments, acquiring said data during a plurality of respective  
first durations;

dividing said data into respective portions,  
each of said respective portions including data for one or  
more of said plurality of respective first durations;

10                   transmitting said data to respective computers  
operated by at least some of said subscribers at the option of  
each individual subscriber;

determining at each said respective computer,  
for each respective first duration in said respective data  
15 portion a respective first range of said data between a  
minimum value during said respective first duration and a  
maximum value during said respective first duration;

determining at each said respective computer,  
for each respective first duration in said respective data  
20 portion a respective expected range of said during said  
respective first duration;

collecting said respective determinations of  
said respective computers;

comparing each respective range of said data  
25 during each respective first duration to each respective  
expected range of said data during said respective first  
duration; and

transmitting said comparison to said  
subscribers.

61. (withdrawn) The method of claim 60 further comprising charging a respective subscription fee to each of said subscribers, said respective subscription fee being lower for a subscriber among said at least some of said subscribers  
5 than for a subscriber outside said at least some of said subscribers.

62. (withdrawn) The apparatus of claim 56 wherein said system is a biological system and said data are biological data.

63. (withdrawn) The apparatus of claim 56 wherein said system is a meteorological system and said data are meteorological data.

64. (withdrawn) The apparatus of claim 52 wherein said system is a biological system and said data are biological data.

65. (withdrawn) The apparatus of claim 52 wherein said system is a meteorological system and said data are meteorological data.

66. (withdrawn) The method of claim 48 wherein said system is a biological system and said data are biological data.

67. (withdrawn) The method of claim 48 wherein said system is a meteorological system and said data are meteorological data.

68. (withdrawn) The apparatus of claim 35 wherein said system is a biological system and said data are biological data.

69. (withdrawn)        The apparatus of claim 35 wherein said system is a meteorological system and said data are meteorological data.

70. (withdrawn)        The apparatus of claim 22 wherein said system is a biological system and said data are biological data.

71. (withdrawn)        The apparatus of claim 22 wherein said system is a meteorological system and said data are meteorological data.

72. (withdrawn)        The method of claim 1 wherein said system is a biological system and said data are biological data.

73. (withdrawn)        The method of claim 1 wherein said system is a meteorological system and said data are meteorological data.